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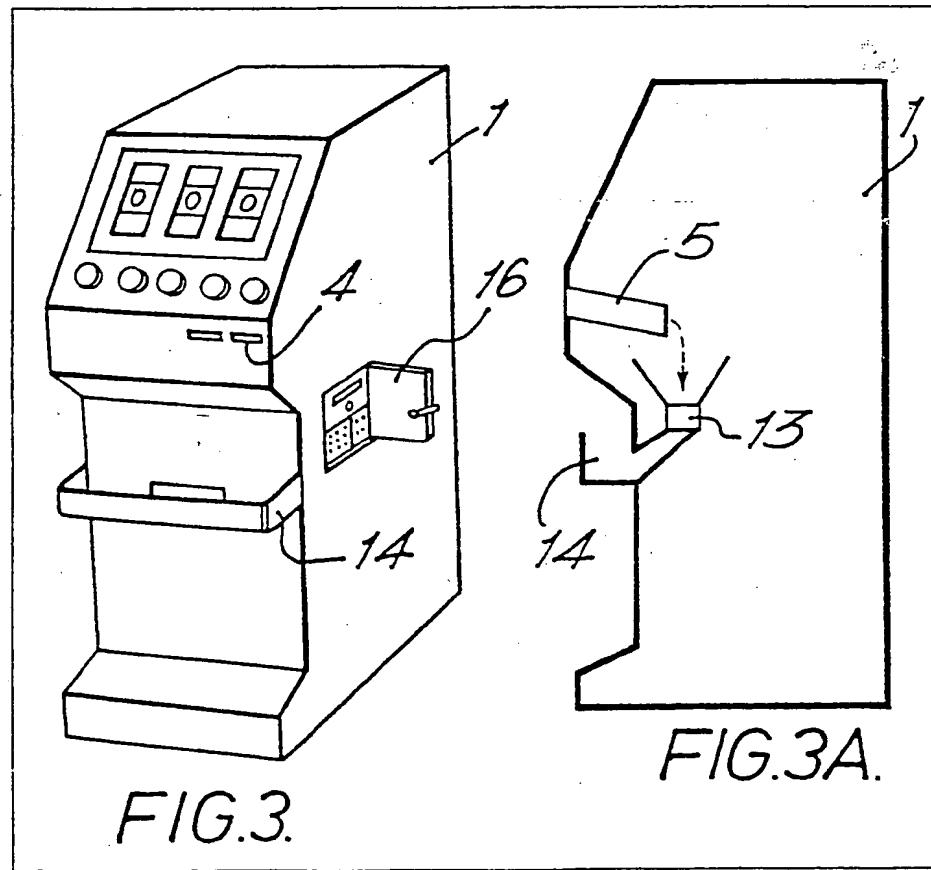
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(54) Money operated machine

(57) A money operated machine, such as a video game, gaming machine, amusement machine with payout, vending or change giving machine, provided with a memory (10) for recording the amount of money fed thereto and paid out or removed therefrom. In one embodiment, the money can be removed by opening a door (8, 16) in the secure cabinet (1) housing the game, the opening of the door being recorded in the memory to give an indication of the amount of

money made available for removal. In another embodiment, a motorised payout (13) is used whereby all or some of the money in the machine can be paid out to an authorised person on activation of a key, code or card operated security means without said person needing to obtain access to the money inside the machine. Preferably, a printer is included in the machine to provide a printed record of money removed from the machine at the time of removal and a historic record at a later date of the money throughput of the machine.

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FIG.1.

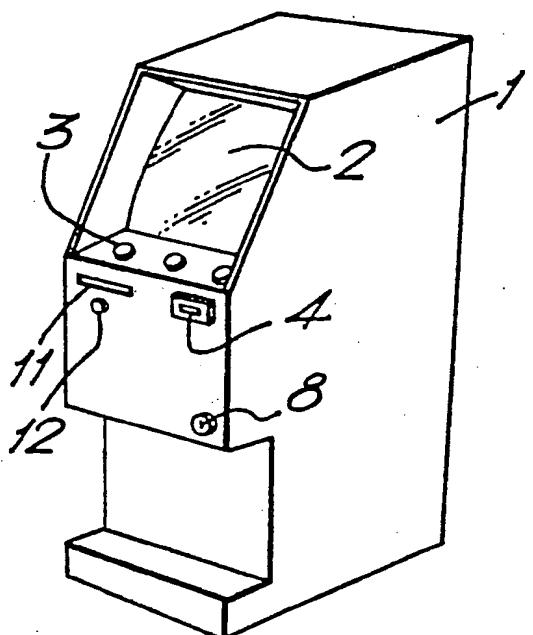


FIG.1A.

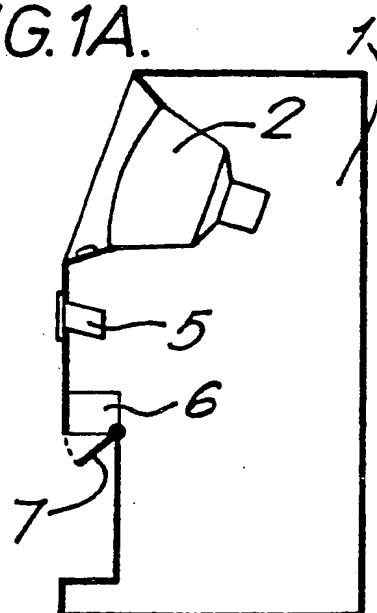


FIG.2A.

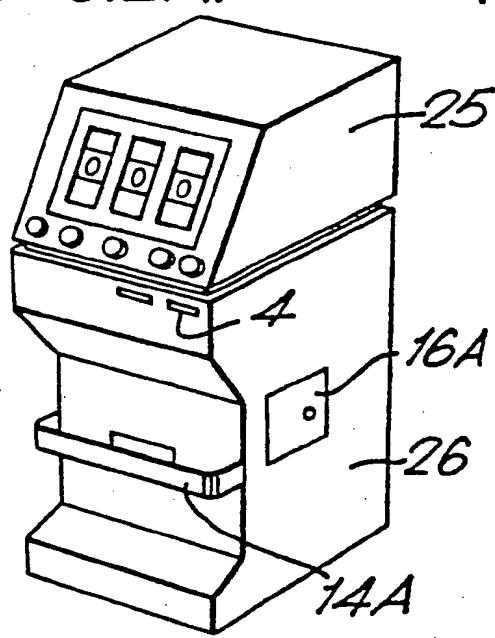
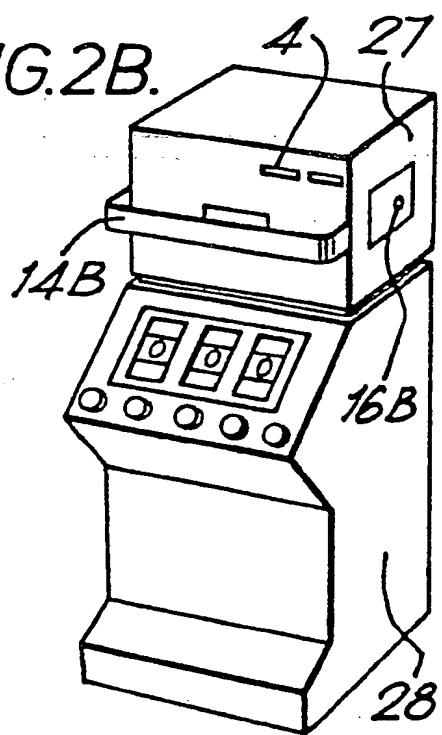


FIG.2B.



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FIG.3.

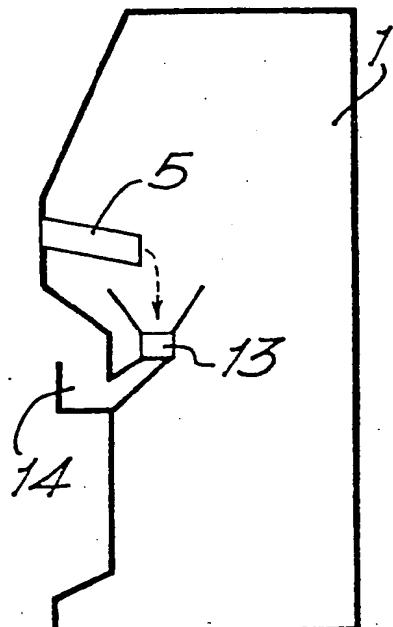
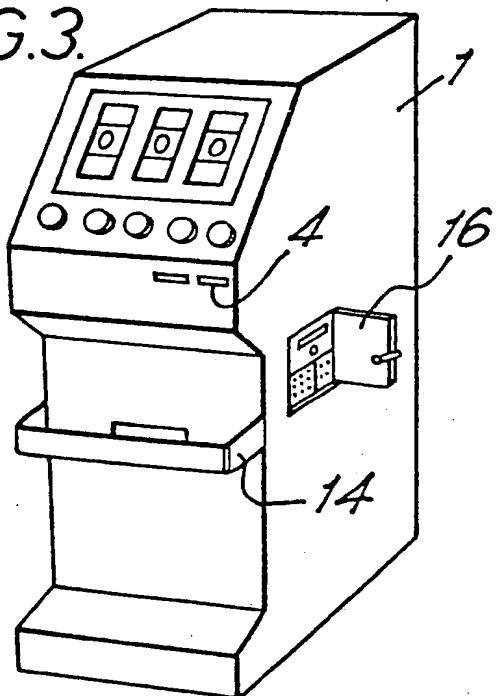


FIG.3A.

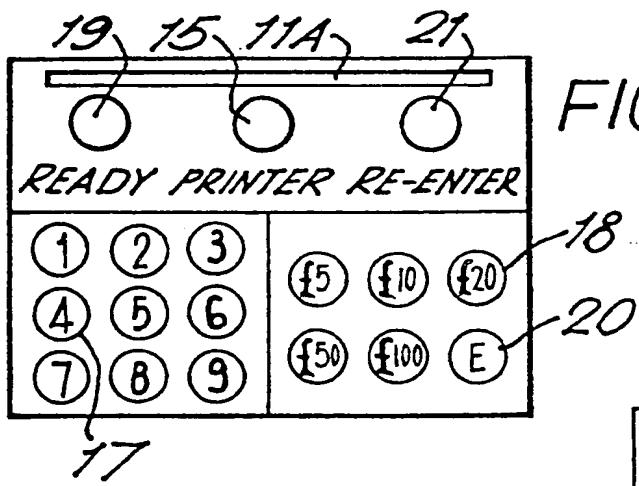


FIG.3B.

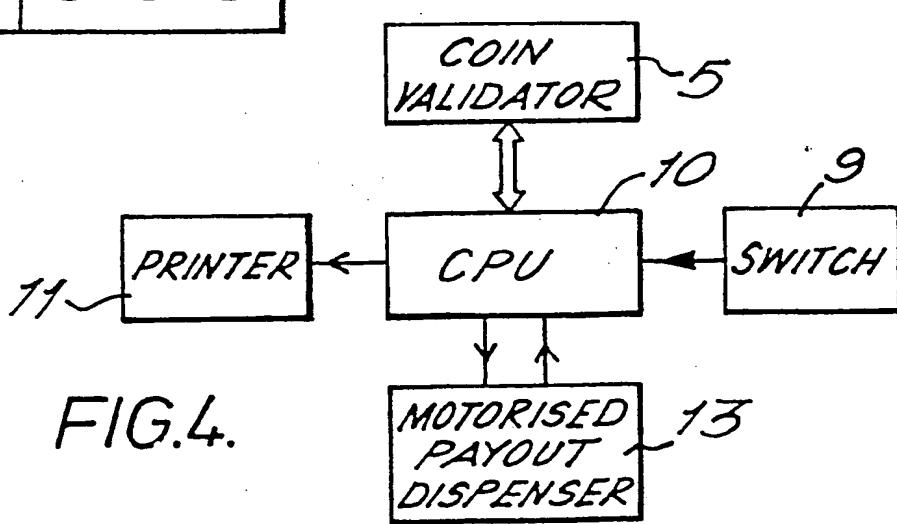


FIG.4.

SPECIFICATION**Money operable machine or part thereof with memory to record the money throughput**

This invention relates to money operable machines and more particularly to machines or parts thereof provided with an electronic memory for recording the amount of money fed thereto and paid out or removed therefrom. The invention is primarily concerned with machines or parts thereof which are coin or token operated but it also applies to machines or parts thereof which accept paper money and either give change therefor or "playing" credits if the machine is of the amusement or game type.

The invention is concerned not only with complete machines in which a single cabinet encloses all the working parts but also with two-part machines in which one part is separately housed to provide only the amusement or gambling facility while the other part is housed in a secure closure with associated recordal means to record the money received by and removed from said closure, the two parts being operably connected together.

The invention has primarily been developed for use with amusement, gaming or video machines, but it can equally well be applied to other money handling machines such as vending or change giving machines.

For illustrative purposes only, the problems to be solved by the present invention will now be described in relation to amusement, gaming or video machines. Such machines are normally housed in a cabinet having a cash box in the base thereof to which coins or tokens inserted in the machine overflow once the machine float has been filled. These machines are usually rented from an operator who has to send a collector round on a regular basis once or twice a week to empty them. Once emptied, the collector pays the renter his share of the takings from the machine and the remainder of the cash is then placed in the collector's van where it remains until all the machines on the collection round have been emptied. As a machine can have as much as £400 in it, and between 10 and 20 machines per day are emptied, this considerable amount of cash in transit represents a substantial security risk for the machine operator on collection days.

Another problem with amusement or gaming machines is that because the renter cannot gain access to the cash box, if he runs out of change and the Banks are closed, he will often call up the machine operator and ask for the service engineer to call simply to empty the machine so that he can then have all the change in it to pass back to his customers. It will be appreciated that this practice is most unsatisfactory from the operator's point of view as a skilled service engineer is tied up at the site for at least one hour doing a job that does not require his particular skills.

To overcome these problems, it is highly desirable that the renter be able to empty the machine himself as required, the machine keeping

a record of the amount of money removed which the operator can check on a regular basis against the money given to him by the renter for his share of the takings from the machine. Such a machine is a benefit to the renter because he can obtain his share of the money from the machine on request and thus he should never find himself short of change. Furthermore, the machine should never need to be left for long periods of time with a lot of money in it other than the "float" so it should prove much less attractive to burglars. The operator also benefits because he need only send an inspector (who need not be skilled in machine maintenance) round to all his sites say once each month to check that his receipts from the renter agree with the money drawn from the machine.

It is therefore an object of the invention to provide a money operated machine or part thereof from which money can be removed by an authorised person, e.g. the renter, on demand, the machine or part thereof keeping a record of all money it has received and made available for removal.

According to the invention there is provided a money operated machine or part thereof comprising

- a) a secure closure for receiving money fed to said machine,
- b) means for recording in an electronic memory the amount of money received by said closure,
- c) security controlled emptying means on the closure connected to the memory and operable to permit a first authorised person to remove from the closure all the money to which access is gained on operation thereof,
- d) said security controlled emptying means being operable, on activation thereof, to record in the memory the amount of money made available for removal,
- e) the memory being accessible only by a second authorised person to check the money received by and removed from the closure.

Desirably, the machine or part thereof includes a printer operable in association with the security controlled emptying means to provide a permanent record for retention by said first authorised person of the amount of money made available for removal. Preferably, the printer is also operable to provide a record for the second authorised person of the amount of money made available for removal by the first authorised person, but said record only being available to the second authorised person. The provision of a printer is particularly advantageous as it provides the machine renter with a permanent record of all money made available for removal from the machine which can be checked later against the machine owner's receipt also produced by the printer should any discrepancy arise.

The security controlled emptying means can take various forms. At its simplest, it comprises a door in the secure closure having release means connected to the memory. This arrangement is particularly convenient for use in a machine using a removable cash box as it allows the renter full

access to it as required, a record being made in the memory when the door is opened of the amount of money made available for removal. In a preferred embodiment the door is located on the closure so that, on opening it, all the money available for removal falls from said closure.

As an alternative to this arrangement, the emptying means can comprise a manual or power operated member normally closing a gravity fed pay-out opening in the closure, said member having release means associated therewith connected to the memory whereby each time said member is opened, a record thereof is made in the memory.

15 The release means can take any convenient form. For instance it may be a simple key operated lock. Alternatively, the lock may be electrically powered and responsive to a signal generated by a security device associated therewith only when it

20 has received a correct authorised code.

In its simplest form, the money made available for removal from the secure closure can be removed either by gaining direct access to the cash box or by emptying it through a gravity fed

25 outlet. However, in a preferred arrangement, the emptying means comprises at least one electrically driven money dispenser operable to dispense money to the first authorised person from a money store in the closure. The money

30 dispenser can either dispense all the money made available down to the float for the machine in one continuous payout process or selector means can be associated therewith so that the money is dispensed in fixed amounts of say £5 or £10.

35 The coin dispensers can be one or more electrically operated coin dispensers with hoppers such as those covered by our U.K. Patent No.

1,445,089. With such dispensers, coins or tokens

can be fed from a hopper attached thereto

40 individually at a rapid rate so they have the advantage that a bigger bulk of coins to be paid out can be retained by the machine than would be possible if known solenoid operated payout tubes were used. However, a separate coin store feeding

45 individual dispensing means such as known solenoid operated payout tubes can be used if desired. Alternatively, one or more coin dispensers as described in our copending U.K. Patent Applications No. 8135027 may be used.

50 If the money operated machine is required to pay out prize money, the coin dispensing mechanism can be additionally responsive to a further signal generated by the machine to pay out the required number of coins or tokens needed for

55 the prize.

The data recording means is capable of recording data such as the number of coins received, and, if appropriate, the number of coins paid out as prizes, the number of coins made

60 available to the first authorised person, as well as the time and date of all such occurrences. These are the most important pieces of data which should be recorded but it will be appreciated that the machine owner may wish for other additional

65 data and accordingly appropriate means can be

included in the data recordal system to obtain this. It is important, however, that the data recording system should memorize and/or record the data in a retrievable manner and also that the memory be non-volatile.

70 The security means on the cabinet can take any convenient form. For instance it can be a key operated mechanism (the key being unique to that machine) whereby turning the key through say 45 degrees will result in a £5 payout to the

75 authorised person, rotation through 90 degrees will give £20, 135 degrees will give £50 and 180 degrees will empty the machine down to the "float". The angular displacements of the key just

80 given are by way of example only as are the amounts paid out for each position of the key.

The security means can be a series of buttons, either on display or preferably hidden behind a lockable flap, by means of which the renter can

85 key in his particular identification code and, if accepted, thereafter can press the appropriate dispensing keys to initiate a payout according to the financial amount indicated on the key.

Alternatively, the coins or tokens can be stored 90 separately by denomination in a coin store comprising one or more individual hoppers each of which can be wholly or partly emptied on activation of a button operably connected thereto, the button having marked thereon the

95 denomination of the coins or tokens in its associated hopper.

Instead of using a button or key system, a code activated system could be employed activated for instance by a card, ultrasonic signal or even a signal transmitted down a telephone line.

Desirably, the machine also includes some means whereby no payment is made either to a player or an authorised person if the electrical supply to the data recordal system is severed or 105 the system is tampered with.

Present day coin or token operated amusement or gaming machines usually comprise a single cabinet of which the upper part contains the game and the coin receiving equipment and the lower

110 part contains the coin handling and payout mechanism and a separate cash box to which are fed all coins in excess of those needed to keep the "float" at its required level. This single cabinet construction has several disadvantages because it

115 means that when a machine manufacturer wants to produce a new game, he has to manufacture the whole machine whereas he is really only concerned with the top portion thereof as the cash handling and payout part are of no interest to him.

120 The present invention overcomes this problem by enabling the machine to be made in two separate parts, the top portion providing the game portion and the bottom part providing the money handling and payout mechanism as well as the coin store or

125 vice versa. With such an arrangement, the top part of the machine can be adapted to cooperate and fit on to the bottom part with the required mechanical and/or electrical connections therewith so it can be readily replaced as required

130 when the game manufacturer wants to update or

replace the game part of the machine.

Whilst it is preferred that the data recordal means be within the secure closure, it can be provided externally thereof. It will also be

- 5 appreciated that the data recordal means need not print the permanent record for the second authorised person on site at the machine as the information retained in the electronic memory could be transmitted to a distant location using
10 telephone lines or similar means.

Preferred embodiments of the invention will now be described, by way of example only, with reference to the accompanying drawings, in which:—

- 15 Figure 1 shows the application of the invention to a video game with gravity feed manually operated money emptying means,

Figure 1A is a schematic cross-section of the arrangement shown in Figure 1,

- 20 Figure 2A shows the application of the invention to a two part amusement machine with the game part located on top of the money handling part,

- 25 Figure 2B shows the application of the invention to a two part amusement machine with the money handling part located on top of the game part,

- 30 Figure 3 shows the application of the invention to an amusement machine with a motorised money emptying means,

Figure 3A is a schematic cross-sectional view of the machine of Figure 3,

- 35 Figure 3B is a more detailed scrap view of the security means and payout selector shown at 16 in Figure 3 and

Figure 4 is a block diagram showing the arrangement of the invention.

- Referring to the drawings, there is shown in Figures 1 and 1A a video game comprising a
40 cabinet or secure closure 1 housing and enclosing a known video game of which only the screen 2 is visible. The controls for the game are shown at 3. A coin entry slot 4 is provided on the front of the cabinet, the slot forming part of a known coin validating mechanism 5. More than one coin

- 45 validating mechanism may be provided. If the coin inserted in the slot 4 is a true coin and accepted by the coin validator, it falls into a cash box 6 located below it. Preferably, as illustrated, the bottom 7 of the cash box is hingedly mounted so that it can be swung down to empty the contents of the cash box 6. The hinged bottom 7 of the cash box is provided with a key operated lock 8 which includes a switch 9 (see Figure 4). The

- 50 switch 9 is connected to a central processing unit 10 of known type with a memory and is operable so that each time the box bottom 7 is opened, a pulse is transmitted to the memory to be recorded and stored therein.

- 55 The coin validator is also connected to the memory so that each time a true coin passes through it, a record thereof is entered in the memory. Thus, it will be seen that the memory is operable to store all the data relating to the money throughput of the machine.

The machine preferably also includes a printer 11 connected to the memory. In the illustrated embodiment, it is separately activated by button 12 after the bottom 7 has been opened and the

- 70 money removed from the cash box 6. However, it could be arranged to automatically print a receipt of the money made available for removal when the bottom 7 is opened.

With the illustrated arrangement, all the money

- 75 can be removed from the cash box 6 by the first authorised person as the memory has recorded the amount of money fed to it and there is no need to retain a float in the machine as it does not have to pay out any prize money.

- 80 The illustrated machine can however be adapted to operate as a gaming or amusement machine which pays out prize money by simply feeding the coins from the coin validator 5 to a coin payout mechanism, such as one or more

- 85 known payout tubes or motorised hoppers, until such time as these payout mechanisms are full to provide the machine "float". Thereafter, the coins will overflow into the cash box 6 to provide the profit of the machine. An example of such a

- 90 machine using a motorised hopper 13 is shown in Figure 3A. The hopper 13 is in accordance with our U.K. Patent No. 1,445,089 so it will not be described in detail here. However, it includes in its base a motor driven mechanism which entrains

- 95 coins from the hopper and dispenses them individually therefrom. With this arrangement, at least an amount of money to cover the maximum prize payout must be retained by the machine at all times (known as the float). The hopper 13 is

- 100 connected to the memory so that it can only be emptied by an authorised person down to its float level. Accordingly, the transfer of data between the CPU and the printer 11 must be two way so that information relating to the amount of money paid out into the payout tray 14 can be referred back to the basic float data stored in the memory and appropriate instructions transmitted from the CPU to switch off the powered payout when the float level has been reached.

- 110 The memory should preferably be non volatile and capable of storing information relating to money made available for removal in a form that can be recalled later by a second authorised person and either displayed on a visual display or

- 115 printed out on the printer 11. Desirably, the information obtainable at the printer 11 by the second authorised person is not available to the first authorised person.

- The machine illustrated in Figure 1 can be modified to provide a printed receipt for the second authorised person in addition to that provided for the first authorised person. The first receipt can be automatically printed out when the lock is operated. The second receipt can either be

- 125 produced at the same time by another printer inside the machine for collection by the second authorised person in due course or it can be obtained by the second authorised person at a later date by activating the printer using a special key.

- 130

Instead of using key operated locks, a security system may be used with a control panel such as that shown in Figure 3B. With this arrangement, the first and second authorised persons would 5 each gain access separately to the memory 10 on entry of an appropriate code number and a print out provided based on the information supplied from the memory.

If a motorised money dispenser is used such as 10 the hopper 13 or a dispenser such as described in our copending Patent Application No. 8135027, there is no need for the first authorised person to have access to the interior of the cabinet 1 at all because the motorised money dispenser can pay 15 out either all the money available for removal or in predetermined amounts. An example of a suitable control panel for use with a motorised money dispenser can be seen in Figure 3B to include a printer 11A operable by a button 15, a set of 20 coded buttons 17 (numbered 1—9 in the illustrated embodiment) and a further set of buttons 18 indicating the amounts of money which can be withdrawn. This control panel would normally be protected by means of a lockable door 25 16 (see Figure 3).

If the renter wishes to obtain money from the machine, he unlocks the door 16, enters his particular code number using the code buttons 17 to obtain clearance from the machine that he is an 30 authorised person. If his code is correct, then a ready light 19 lights up and he can then decide how much money to remove from the machine by operating the appropriate buttons 18. If the machine is to be completely emptied or at least 35 down to its float, then the E button 20 must be used. Having operated the appropriate button, the money would be paid out into the payout tray 14 for removal. Activation of button 15 then produces a printed record of the money that was made 40 available, the money that had been received by the machine and the date and time that the payout was made. If a wrong code number is entered or the amount of money demanded is in excess of the amount of money available for removal, a "re-enter" light 21 will light up and nothing will 45 happen until an accepted combination is re-entered on the keyboard.

The control panel shown in Figures 3 and 3B can be replaced by any other suitable security 50 means. For instance, the machine could be made to respond to a suitably coded card or an ultrasonic activator. Furthermore, whilst it is desirable to protect the printer 11A by the door 16, the printer can be provided elsewhere on the 55 cabinet 1 if desired.

Referring now to Figures 2A and 2B, there are shown two amusement machines incorporating the invention. The only difference between these machines and those just described is that they are 60 in two parts, the upper part providing the amusement part of the machine whereas the lower part provides the coin handling part. All the features just explained with regard to the one piece cabinet can be applied to the secure closure 65 part of the machine so they will not be described

again. The machine of Figure 2A has the game portion 25 on top of the secure closure 26 housing the coin handling equipment whereas in the Figure 2B arrangement, the coin handling part 70 27 rests on top of the game part 28. The upper and lower parts are electrically connected together in known manner by suitable means to enable money to be paid out if a winning combination is achieved on the game part of the 75 machine.

CLAIMS

1. A money operated machine or part thereof comprising
 - a) a secure closure for receiving money fed to said machine,
 - b) means for recording in an electronic memory the amount of money received by said closure,
 - c) security controlled emptying means on the closure connected to the memory and operable to permit a first authorised person to remove from the closure all the money to which access is gained on operation thereof,
 - d) said security controlled emptying means being operable, on activation thereof, to record in the memory the amount of money made available for removal,
 - e) the memory being accessible only by a second authorised person to check the money received by and removed from the closure.
2. A machine or part thereof as claimed in claim 1 including a printer operable in association with the security controlled emptying means to provide a permanent record for retention by said first authorised person of the amount of money made available for removal.
3. A machine or part thereof as claimed in claim 2 wherein the printer is also operable to provide a record for the second authorised person of the amount of money made available for removal by the first authorised person, but said record only being available to the second authorised person.
4. A machine or part thereof as claimed in any of claims 1 to 3 wherein the emptying means comprises a door in the secure closure having release means thereon connected to the electronic memory whereby each time the door is opened, a record thereof is made in the memory.
5. A machine or part thereof as claimed in any of claims 1 to 3 wherein the emptying means 115 comprises a manual or power operated member normally closing a gravity fed payout opening in the closure, said member having release means associated therewith connected to the memory whereby each time said member is opened, a record thereof is made in the memory.
6. A machine or part thereof as claimed in claim 4 wherein the door is located on the closure so that, on opening it, all the money available for removal falls from said closure.
7. A machine or part thereof as claimed in any of claims 4 to 6 wherein the release means is a lock.
8. A machine or part thereof as claimed in claim 7 wherein the lock is electrically powered.

9. A machine or part thereof as claimed in claim 7 wherein the lock is manually released by means of a key.
10. A machine or part thereof as claimed in claim 8 wherein the lock is released in a response to a signal generated by a security device associated therewith only when a correct authorised code has been received thereby.
11. A machine or part thereof as claimed in any of claims 1 to 3 wherein the emptying means comprises at least one electrically driven money dispenser operable to dispense to the first authorised person money from a money store in the closure.
- 15 12. A machine or part thereof as claimed in claim 11 including means whereby the money dispenser is operable to dispense money in predetermined amounts on receipt of an appropriate signal from selector means operably associated therewith.
- 20 13. A money operated machine or part thereof substantially as herein described with reference to Figure 4 or Figures 1—3B of the accompanying drawings.

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